

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): An optical disk substrate film-formation apparatus which manufactures an optical disk by forming a thin film on the surface of a substrate, said apparatus comprising:

a substrate holder which fixes said substrate during the formation of said film,

wherein said substrate holder includes,

a contact holding surface contacting at least a portion of a rear surface of a film-formed area of said substrate on which said film is formed,

a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate, and

a removal claw having an inclined section configured to go into a section between a rear surface of the substrate and a top surface of the substrate holder to mechanically peel off the adsorbed substrate from the substrate holder.

Claim 2 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 1, wherein said contact holding surface is made from a material with a hardness lower than said substrate.

Claim 3 (Original): The optical disk substrate film-formation apparatus according to claim 1, wherein said substrate holder has a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate, and said contact holding surface has a groove section.

Claim 4 (Original): The optical disk substrate film-formation apparatus according to claim 1, wherein said substrate holder has a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate; and a removal claw for removing the adsorbed substrate.

Claim 5 (Original): The optical disk substrate film-formation apparatus according to claim 1, wherein said substrate holder is located between a film-formation chamber in which film formation for a substrate is performed and a substrate carriage chamber in which a pressure is maintained at a lower level than that in said film-formation chamber, and said contact holding surface has a through-hole communicated to said substrate carriage chamber and to said film-formation chamber.

Claim 6 (Previously Presented): An optical disk substrate film-formation apparatus which manufactures an optical disk by forming a thin film on the surface of a substrate, said apparatus comprising:

- a substrate holder which fixes said substrate during the formation of said film,
- wherein said substrate has a thickness of 0.6 mm or less, and
- wherein said substrate holder includes,
 - a contact holding surface contacting at least a portion of a rear surface of a film-formed area of said substrate on which said film is formed,
 - a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate, and
 - a removal claw having an inclined section configured to go into a section between a rear surface of the substrate and a top surface of the substrate holder to mechanically peel off the adsorbed substrate from the substrate holder.

Claim 7 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 6, wherein said contact holding surface is made from a material with a hardness lower than said substrate.

Claim 8 (Original): The optical disk substrate film-formation apparatus according to claim 6, wherein said substrate holder has a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate, and said contact holding surface has a groove section.

Claim 9 (Original): The optical disk substrate film-formation apparatus according to claim 6, wherein said substrate holder has a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate; and a removal claw for removing the adsorbed substrate.

Claim 10 (Original): The optical disk substrate film-formation apparatus according to claim 6, wherein said substrate holder is located between a film-formation chamber in which film formation for a substrate is performed and a substrate carriage chamber in which a pressure is maintained at a lower level than that in said film-formation chamber, and said contact holding surface has a through-hole communicated to said substrate carriage chamber and to said film-formation chamber.

Claim 11 (Previously Presented): An optical disk substrate film-formation apparatus comprising:

a substrate holder which holds a substrate at its rear surface so that sputter film formation can be carried out on the front surface of said substrate,

wherein said substrate holder includes,

a substrate holding surface which comes in contact with said rear surface of said substrate,

a vacuum chuck section for adsorbing and fixing said contact holding surface to said substrate, and

a removal claw having an inclined section configured to go into a section between a rear surface of the substrate and a top surface of the substrate holder to mechanically peel off the adsorbed substrate from the substrate holder.

Claim 12 (Original): The optical disk substrate film-formation apparatus according to claim 11, wherein the surface roughness R_{\max} (maximum height) of said substrate holding surface is $10\ \mu\text{m}$ or more and less than $500\ \mu\text{m}$.

Claim 13 (Original): The optical disk substrate film-formation apparatus according to claim 12, wherein lubrication is provided at at least a portion of said substrate holding surface, and the surface roughness R_{\max} at the portion where the lubrication is provided is $10\ \mu\text{m}$ or more and $500\ \mu\text{m}$ or less.

Claim 14 (Original): The optical disk substrate film-formation apparatus according to claim 12, wherein at least a portion of said substrate holding surface is made from a self-lubricating plastic material, and the surface roughness R_{\max} of the portion made from the self-lubricating plastic material is $10\ \mu\text{m}$ or more and $500\ \mu\text{m}$ or less.

Claim 15 (Previously Presented): An optical disk substrate film-formation apparatus comprising:

a substrate holder which holds thereon a substrate as an object for film formation,
said substrate holder having,

a groove section which extends from a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate to a portion where said substrate holder does not contact said substrate when said substrate holder is holding said substrate, and

a porous member which can allow air to pass through provided within said groove section in which the surface of the porous member is at a same level as the surface of substrate holder.

Claim 16 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 15, wherein said porous member is made from a thermal conductivity material.

Claim 17 (Original): The optical disk substrate film-formation apparatus according to claim 15, wherein said porous member is made from a polymeric material or a material with a polymeric material laminated on the surface.

Claim 18 (Original): The optical disk substrate film-formation apparatus according to claim 15, wherein said porous member is made from an elastic material.

Claim 19 (Previously Presented): An optical disk substrate film-formation apparatus comprising:

a substrate holder which holds thereon a substrate as an object for film formation,
said substrate holder having,
a groove section in a portion where said substrate holder contacts said substrate when
said substrate holder is holding said substrate,
a porous member which can allow air to pass through provided within said groove
section in which the surface of the porous member is at a same level as the surface of
substrate holder, and
a through-hole which connects said groove section to the portion where said substrate
holder does not contact said substrate when said substrate holder is holding said substrate,
wherein said substrate holder is located between a film-formation chamber in which
film formation for a substrate is performed and a substrate carriage chamber in which a
pressure is maintained at a lower level than that in said film-formation chamber, and
wherein said through-hole directly communicates with air within the substrate
carriage chamber.

Claim 20 (Previously Presented): The optical disk substrate film-formation apparatus
according to claim 19, wherein said porous member is made from a thermal conductivity
material.

Claim 21 (Original): The optical disk substrate film-formation apparatus according to
claim 19, wherein said porous member is made from a polymeric material or a material with
a polymeric material laminated on the surface.

Claim 22 (Original): The optical disk substrate film-formation apparatus according to
claim 19, wherein said porous member is made from an elastic material.

Claim 23 (Previously Presented): An optical disk substrate film-formation apparatus comprising:

a substrate holder which holds thereon an optical disk substrate as an object for film formation;

an inner mask which masks a specified area on an inner side of said optical disk; and

an outer mask which masks a specified area on an outer side of said optical disk;

wherein said inner mask and said outer mask being used for forming a thin-film on a surface of said optical disk substrate,

said substrate holder having,

a substrate holding section which contacts said optical disk substrate on the rear surface of said optical disk substrate but in a portion where the thin-film has been formed on the front surface,

wherein said substrate holding section contacts said optical disk substrate in the portion extending between a line which is 2 to 10 mm on the outer side of an edge of said inner mask and a line which is 0.5 to 5 mm on the inner side of an inner edge of said outer mask.

Claim 24 (Original): The optical disk substrate film-formation apparatus according to claim 23, the thickness of said optical disk substrate is between 0.3 to 0.8 mm.

Claim 25 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 23, wherein an edge of said substrate holding section is tapered.

Claim 26 (Original): The optical disk substrate film-formation apparatus according to claim 25, wherein a taper angle is the angle between the tapered surface obtained by tapering and the surface of said substrate holding section where said optical disk substrate contacts said surface holding section, and the taper angle is between 1.0 to 2.0 degree.

Claim 27 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 23, wherein an edge of said substrate holding section is made from a material having a hardness lower than the hardness of said optical disk substrate.

Claim 28 (Original): The optical disk substrate film-formation apparatus according to claim 27, wherein the width of the portion made from the material having a lower hardness, in the radial direction of said optical disk, is between 0.1 to 0.5 mm.

Claim 29 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 27, wherein said material of the edge of the substrate holding section is silicon rubber.

Claim 30 (Currently Amended): An optical disk substrate film-formation apparatus used for sputter film formation in which a laminated film is formed by combining any one or two or more of a reflection layer, a recording layer, a protection layer, or a dielectric body layer on a disk substrate in an optical disk manufacture step comprising:

a gas supply section for introduction of gas in ~~[[the]]~~ a substrate holder side in a limited portion between a substrate setting surface of ~~[[the]]~~ a substrate holder and a film-formed substrate, and at least a closed space section in the area formed in the substrate holder side because of contact between the substrate and substrate holder,

wherein gas is supplied from the gas supply section during a period from a time point when sputter film formation is finished until a time point when a substrate is carried out, and

wherein the gas supplied from said gas supply section is also used as vent-gas for ~~an~~ intermediate a load lock chamber between atmosphere for inserting a substrate into or carrying out from the optical disk substrate film-formation apparatus and vacuum.

Claims 31-32 (Canceled).

Claim 33 (Original): The optical disk substrate film-formation apparatus according to claim 30, wherein a gas inlet port for introducing gas from outside of the optical disk substrate film-formation apparatus is provided in an internal wall of a frame of the optical disk substrate film-formation apparatus forming a closed space of the load lock chamber, a gas supply port communicating to gas supply section is provided in said substrate holder, and said gas inlet port of the frame of the optical disk substrate film-formation apparatus and said gas supply port of said substrate holder are communicated to each other only when said substrate holder moves to a specified position of the load lock chamber.

Claim 34 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 33, wherein said gas inlet port of a frame of the optical disk substrate film-formation apparatus and said gas supply port of said substrate holder are connected to each other via ~~a O-ring~~ an O-ring.

Claim 35 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 30, wherein the apparatus has a tapered structure on which a joint section of ~~[[said]]~~ a gas inlet port of the frame of said optical disk substrate film-formation apparatus

and that of [[said]] a gas supply port of said substrate holder are positioned one above another.

Claim 36 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 33 further comprising:

a bypass valve which communicates [[a]] with the gas inlet port of [[a]] the frame of said optical disk substrate film-formation apparatus to a load lock chamber, said bypass valve being provided in a gas inlet path formed by ~~joining~~ joining said gas inlet port of the frame of the optical disk substrate film-formation apparatus to said gas supply port of said substrate holder,

wherein said bypass valve is opened only when the ~~lock-load~~ load lock chamber is evacuated to a vacuum state.

Claim 37 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 35 further comprising:

a bypass valve which communicates [[a]] with the gas inlet port of [[a]] the frame of said optical disk substrate film-formation apparatus to a load lock chamber, said bypass valve being provided in a gas inlet path formed by ~~joining~~ joining said gas inlet port of the frame of the optical disk substrate film-formation apparatus to said gas supply port of said substrate holder,

wherein said bypass valve is opened only when the ~~lock-load~~ load lock chamber is evacuated to a vacuum state.

Claim 38 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 33 further comprising:

an evacuation path which can independently be evacuated to a vacuum state is provided in a gas inlet path of ~~[[a]]~~ the frame of said optical disk substrate film-formation apparatus formed by ~~joining~~ joining said gas inlet port of the optical disk substrate film-formation apparatus to said gas supply port of said substrate holder,

wherein evacuation to a vacuum state from the evacuation path is performed only when the load lock chamber is to be evacuated to a vacuum state.

Claim 39 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 35 further comprising:

an evacuation path which can independently be evacuated to a vacuum state is provided in a gas inlet path of ~~[[a]]~~ the frame of said optical disk substrate film-formation apparatus formed by ~~joining~~ joining said gas inlet port of the optical disk substrate film-formation apparatus to said gas supply port of said substrate holder,

wherein evacuation to a vacuum state from the evacuation path is performed only when the load lock chamber is to be evacuated to a vacuum state.

Claim 40 (Currently Amended): The optical disk substrate film-formation apparatus according to claim 30, wherein the edge of ~~[[a]]~~ the substrate holder forming a border between a contact section in which a rear surface of the substrate and the substrate holder contact to each other when the substrate is loaded on said substrate holder and a non-contact section, or at least a hole edge section of said gas supply section is ~~R-machined~~ machined.

Claim 41 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 30, wherein a surface of said substrate holder is lubricated via a lubrication process.

Claim 42 (Previously Presented): The optical disk substrate film-formation apparatus according to claim 41, wherein the lubricating process includes one of a water-repelling processing including complex plating with water-repelling powder using carbon fluoride (Cf)_n or fluoro-resin (PTFE, PFE, FEP), or processing with a chlorosilane-based chemical adsorbent having a fluoroalkyl base.

Claims 43-72 (Canceled).

Claim 73 (Previously Presented): A substrate holder which holds thereon a substrate as an object for film formation in an optical disk substrate film-formation apparatus, said substrate holder comprising:

a groove section which extends from a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate to a portion where said substrate holder does not contact said substrate when said substrate holder is holding said substrate; and

a porous member which can allow air to pass through provided within said groove section in which the surface of the porous member is at a same level as the surface of the substrate holder.

Claims 74-80 (Canceled).